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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,936	04/05/2002	Bo Vigholm	1501-1026	1231
466	7590	11/17/2003	EXAMINER	
YOUNG & THOMPSON				BUTLER, DOUGLAS C
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ARLINGTON, VA 22202				
ART UNIT		PAPER NUMBER		
		3683		

DATE MAILED: 11/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.	VIGHOLM, BO	
Examiner	Art Unit	

Douglas C. Butler

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1) Responsive to communication(s) filed on 8 27 2003, 9 15 2003.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

4) Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) 3,6-8, 10-14 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,4,5 and 9 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) 1-14 are subject to restriction and/or election requirement.

### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) The translation of the foreign language provisional application has been received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

1) Notice of References Cited (PTO-892)      4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)      5) Notice of Informal Patent Application (PTO-152)  
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.      6) Other: \_\_\_\_\_

### **DETAILED ACTION**

1. A corrected copy of the Form PTO-892 forwarded with the previous office action of July 29, 2003 is enclosed.
2. An action on the merits of claims 1-2, 4-5 and 9 considered readable on Species C(Figure 4 )is included in this office action with claims 3, 6-8 and 10-14 being withdrawn from consideration. 37 C.F.R. § 1.142(b). Election was made without traverse in Paper No. 5 filed on August 27, 2003.
3. Figure 1 should be labeled as "Prior Art".
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-2, 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There are no clear antecedent bases in the claims for a number of elements recited in the claims. For example, there are no clear antecedent bases in the claims for "the brake member" of claim 1, lines 21-22; "the brake circuit" of claim 1, line 22; "the brake circuit" of claim 1, penultimate line; "the brake member" of claim 4, last line; etc.

6. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 directed to a method lacks the steps for performing a method. Also, "the brake pedal" of claim 9, penultimate line lacks a clear basis in claim 9.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoder(3431028), of record.

Figure 6 of Yoder achieves a delayed or hindered activation of brake circuit 18 by limiting flow to the brake by throttle or flow limiting valve 100 and then opening flow to the brake circuit when a predetermined pressure is reached.

9. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Cummins et al(3957315).

Flow limiting valve or orifice 92 of the single figure of Cummins et al delays braking at brake member 32 as broadly recited as per column 3, lines 15-33 of Cummins et al.

10. Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumoto et al(3677605), of record.

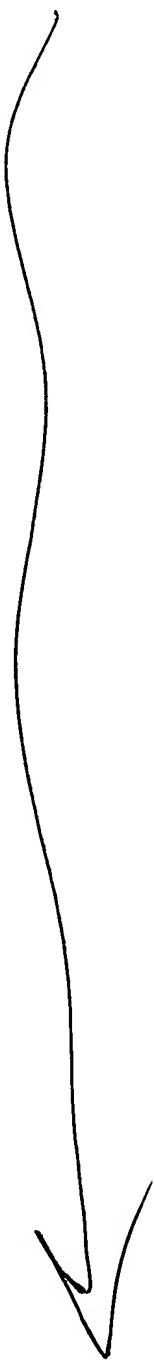
See Figure 4 of Matsumoto et al(3677605) with limited flow between  $P_1$  and  $P_2$  followed by open flow for delayed braking to the front wheels.

11. Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Doerfler et al(4068900), of record.

See Figure 1 of Doerfler et al(4068900) with limited flow followed by open flow for delayed braking to the front wheels.

12. Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated Stelzer(3278241).

See column 1 of Stelzer which teaches the well known arrangement of delayed effect braking:



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~~14 Claims. (120, 203—0)~~

This invention relates to hydraulic brake systems for automotive vehicles, and particularly to an improved 1 metering valve adapted to delay pressurization of the front wheel brakes where the vehicle front wheels are equipped with disc brakes and the rear wheels with drum brakes.

When disc brakes are applied, they produce a brake 1 torque almost as soon as hydraulic pressure is developed in the system whereas drum brakes require a substantial hydraulic pressure in the system before they produce a brake torque. Drum brakes utilize relatively heavy return springs, the force of which must be overcome before 2 the shoes contact the drum while disc brakes use either no return springs or very light return springs. In either case, the disc brakes require only a relatively small pressure at their brake cylinders to cause actuation 2.

If a vehicle is provided with drum brakes on its rear wheels and disc brakes on its front wheels and no metering valve for the disc brakes is employed, the disc brakes will develop high braking torque during a light brake 3 application. As a result the linings of the disc brake 31 shoes will tend to wear out prematurely. Furthermore, the front brakes will frequently be applied inadvertently by drivers who rest their foot on the brake pedal or "ride" the brake pedal. This can easily cause excessive heating of the disc brakes without the driver even becoming aware of the situation.

In view of the foregoing problems, it has been proposed that a valve be interposed between the master cylinder and the disc brake cylinders which will retard the delivery of fluid pressure to the disc brake cylinders 4 during pedal application until master cylinder pressure reaches a predetermined level. Preferably, this level is equal to or greater than the pressure at which the force of the drum brake return springs will be overcome, thereby causing the disc brakes to produce a braking torque 4c at the same time or after the drum brakes and preventing inadvertent application of the disc brakes. The pressure limiting effect of such a valve should be gradually eliminated as master cylinder pressure is increased for maximum efficiency to obtain the highest practical braking torque per unit of input energy. Importantly, this valve should permit fluid communication between the master cylinder and disc brakes when the brake pedal is not applied to relieve pressure at the brake cylinders 5c when the pedal is released and to permit expansion of the heated hydraulic fluid at the brake cylinders when the brakes are not energized.

*By reason of their construction it has sometimes been*

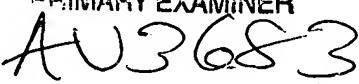
13. In an attempt to convey to applicant the well known braking technique of delayed braking to smooth braking during both loaded and unloaded conditions and/or normal and panic or hard braking by the appropriate use of limiting fluid flow followed by open or unrestricted fluid flow in a pair of brake circuits, consider Oberthur(3311422),

Reichard(3393945), Payne(3414334), Bueler(3469889), Doerfler(3493270),  
Falk(3586384), Swanson(3612618), Van Wicklin, Jr.(3836204), Stelzer(3838887) and  
Yabuta et al(3886966). **Consideration of the first column of each document will in all likelihood provide applicant with a better appreciation of the undue breadth of at least claims 1 and 9.**

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exmr. Butler whose telephone number is (703) 308-2575. The examiner is normally in the USPTO Monday-Friday from 5:30 a.m. to 2:00p.m. Although the examiner may not always be present in his office to immediately answer the phone when called, the examiner will make every effort to return the call as soon as possible. If the examiner does not answer his phone, the examiner suggests that a brief message be recorded on the examiner's voice mail machine when necessary and appropriate. The examiner normally checks recorded phone calls at least once a day unless on leave.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

  
DOUGLAS C. BUTLER  
PRIMARY EXAMINER  


11/13/2003